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Marian T. Costelloe

Monash University, Australia, marian.costelloe@monash.edu

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MyDispense: Lessons from Global Collaboration in Developing a Pharmacy Educational Simulation Tool

Marian Costelloe

Faculty of Pharmacy and Pharmaceutical Sciences, Monash University

Abstract

The current focus on global workforce development in pharmacy provides a perfect stage for continued and extended collaboration between educators, researchers, and practitioners. One such global educational project is the MyDispense Project, which is a collaborative journey that started with an educational need. MyDispense is an online pharmacy simulation tool that teaches dispensing skills to students. Development of the tool began as a need for Australian pharmacy students, but has been customized for other parts of the world as well. Since the project's launch in 2010, the ongoing use and development of the tool is a compelling story of success for global collaboration in pharmacy education. Lessons can be learned from this collaborative endeavour.

Keywords: Collaboration, pharmacy education, global workforce, simulation tool, dispensing

Introduction

Developing software is a complex and often costly process. In a commercial context, development usually happens within a clearly defined team, with minimal visibility, in order to keep ownership and control of the intellectual property involved. However, there are other approaches that can deliver benefits which far outweigh commercial gains. This has proven to be the case with MyDispense, a free online pharmacy simulation developed by Monash University.¹

The original development of MyDispense grew from a need in the education process here at Monash University's Faculty of Pharmacy and Pharmaceutical Sciences. A more sophisticated and meaningful way to teach dispensing skills to students was required, and an online simulation tool identified as the ideal solution. MyDispense is designed to allow users to build knowledge, improve cognitive proficiency and develop professional values and attitudes. Students using the system operate in an environment in which they are required to review the information they have at hand in order to make decisions and take actions that are safe and beneficial for the patient. Students also develop interpersonal skills by interacting with patients and other health professionals. Instant feedback allows students to reflect on their performance and how they may improve.

A clear scope was set for the development, with important considerations decided early on. First, the technology solution would have a high quality, easy to use administrative back end that would allow a broad range of contributors to develop tutorials and workshops. Second, we wanted to build an educational tool that would have international relevance. Third, after looking at possible options, we decided against commercialisation of the project. This decision grew out of a philosophy of shared practice within the Faculty. We could see that a project of this nature had much to be gained from connecting with like-minded colleagues in other places.

Global Collaboration

Since the launch of the project in 2010, the ongoing use and development of MyDispense has proven to be a compelling case study for the open sharing of resources, the value of ongoing dialogue between institutions, and the success of global collaboration in pharmacy education. The system is now in use at 32 pharmacy schools globally, across the United States (USA), United Kingdom (UK), Australia, Africa and the Middle East. Its content and functionality are steadily expanding thanks to contributions from collaborators within those schools. The project has facilitated new collaborative relationships between colleagues, which have grown beyond the MyDispense project itself. And, it is helping provide useful data for studies into the potential of global collaboration.

Pharmacy is a field with a great deal of regional variation. Practice differs around the world, with different products, professional responsibilities and legislation between territories. For MyDispense to be of real value to students globally, workshop and tutorial content needs to match the local context within which they are learning. Having the development team at Monash integrate all of these variations wasn't feasible. But it provided the ideal context for global collaboration. For this reason, Monash decided to support

Corresponding Author: Marian Costelloe, General Manager
Faculty of Pharmacy and Pharmaceutical Sciences
Monash University - Parkville Campus
381 Royal Parade, Parkville, VIC 3052, Australia
Telephone - +61 3 9903 9505; Facsimile - +61 3 9903 9581
Email - marian.costelloe@monash.edu
www.pharm.monash.edu.au

development of regional versions of MyDispense, starting with the USA. A strong collaboration with University of California San Francisco (UCSF) and the University of Connecticut (UConn) led to the release of the USA version in 2014 and the UK version began rolling out in October 2016. As more and more schools have adopted MyDispense for their teaching, they have also joined the collaborative project of creating localised variations within the system's content. The successful development of the USA version is the result of likeminded faculty coming together and being prepared to invest their time into the project. For example, different people offered to complete various tasks, such as mapping the local dispensing process, taking photos of medicine packages and developing a local data base of patient details.

This collaborative approach has delivered many benefits for Monash University, and for colleagues and students at our partner schools. At Monash University, we are immensely proud of the work that is being done and the global collegial relationships that are developing because of MyDispense.

Working with our early partners significantly informed how to adapt and modularise the software, making subsequent customised versions for other parts of the world much easier. And seeing the extent to which peer support has grown throughout the user community has been very satisfying. It decreases the support that we have to supply and allows us to spend more time on developing the technology.

In terms of functionality, collaborative input from partner schools has seen the inclusion of a number of new features in MyDispense, such as a tablet-counting activity and the addition of voicemail to the pharmacy telephone. In addition, the existing features have been modified by the community to be much more flexible and adaptable.

A much larger user community has also allowed the project team at Monash to gather more feedback about the utility of the software; this allows for much better testing, and bug finding and fixing. The approach to developing the system is now very much a global one. All of the features and enhancements we have planned in the product development roadmap have a global perspective.

Community Building

It has also been very rewarding to see groups form within the MyDispense community.² Some groups have formed naturally in geographic areas, such as the UK, USA, South America and Africa. Others form for other reasons, such as the authoring of an academic publication.

While Monash University owns MyDispense, we have encouraged an open and two-way engagement with it.

Essentially, we tell other schools who express an interest, "here's the program, it's free. We will pay for an adaptation for your country and work with you to build and implement it." In return, the expectation is that schools using it share their content with others. We have 'superstar' schools, such as the Universities of California (San Francisco), Connecticut and Kentucky who create significant numbers of exercises. Another group of schools is currently working on an African version of MyDispense that will feature names and addresses more fitting to the cultural and geographical context of students in Africa.

The benefits flow both ways. There is a reputational advantage for Monash, which is invaluable. But for other schools, particularly those in developing countries with less access to the resources they need, being part of the MyDispense community of shared practice and engaging with its philosophy has opened up new possibilities. By doing a little bit of work, collaborators get access to materials and resources which would have cost hundreds of thousands of dollars.

It's a model of development and collaboration that can be quite unexpected for an audience used to the increasing commercialisation of academic ventures. When we first present MyDispense to new schools or at conferences, the initial reaction has often been surprise and disbelief. We have found that the best way to break down the resistance and show that this is about more than just Monash is to allow our collaborators to explain it.

Our collaborators have reported that the project has opened up new opportunities for collaboration both globally and within the USA. Some collaborators have travelled to Monash University to assist with MyDispense development, given input into the US version of the software, helped organize the first international MyDispense Symposium³, and arranged for support for others to attend the Symposium. The collaborations have been reported to foster work and relationships which not only benefit students and faculty, but also raises the visibility of collaborators as being actively involved in improving pharmacy education with novel methods, researching these methods and providing support to underfunded global schools of pharmacy.

The MyDispense project has been an incredible journey that started with an educational need. Since the release of MyDispense USA, there has been steady and increasing interest in the system. It has turned into an ongoing source of goodwill and collaboration, which led to the first international MyDispense Symposium, held in Italy during July of 2016. We were very fortunate with this event, in that we were able to secure external funding for travel bursaries for colleagues from pharmacy schools in developing countries.

At the beginning of the symposium, which we intend to hold biannually, we had 40 people from 16 countries who had never met before. By the end of the symposium, we had a group of people who not only worked very effectively together, but who had also formed firm friendships. We also had a clear roadmap for the development of MyDispense that speaks to the requirements of its many users. The Symposium was a mix of whole-group and small-group discussions, based on level of experience using MyDispense and regional needs. Built into the program was opportunity for discussion, practice and feedback. Outputs from the Symposium include plans to continue adapting the software to support pharmacy practice in African nations and those in Latin America.

Successes and Outcomes

The success of our collaborative global experience is garnering increased interest. Colleagues within the global MyDispense community are jointly presenting abstracts for conferences on a regular basis, including the most recent American Association of Colleges of Pharmacy conference where we presented a model for global collaborations. The current focus on global workforce development in pharmacy provides a perfect stage for continued and extended collaboration in the development of MyDispense to strengthen its utility in training and educating pharmacists of the future.

For the Faculty of Pharmacy and Pharmaceutical Sciences at Monash University, our strong tradition of collaboration and openness means we are keen to continue sharing MyDispense with other schools. We have committed resources to the ongoing work of adaptation and improvement.

We believe it is a valuable investment. Initial evaluation studies have shown that MyDispense is having a real and positive effect on students' learning globally.⁴ There are growing number of people, and institutions, who embrace the philosophy of sharing education resources and MyDispense has been a great rallying point for that philosophy. For other faculties weighing up the pros and cons of a collaborative project, particularly on a global scale, we can share some useful lessons.

Lessons Learned

A key to the success of MyDispense has been our decision to not try to monetize the project. We encourage others to consider freely sharing their work. The benefits can be substantial and very rewarding. In terms of scope, be realistic about what you can achieve. Start small but think big. And iterate often, to demonstrate that progress is being made. You do not need huge resources, just good people and enough time to dedicate to the project.

Your partners will want to know their engagement is worthwhile and appreciated, so be responsive and keep lines of communication open. Be receptive to their ideas, no matter how off the wall they may seem. Even if you do not immediately see the benefit, you may be surprised with how popular those ideas are with the user community.

We have also found it beneficial to keep the collaboration as friendly and socially informal as possible. From our experience, collaboration free of hierarchy and formality is very productive and creates genuine friendships. When we meet at conferences we build in social time to spend together and encourage visits to each of our universities.

Since 2010, MyDispense has led us on an increasingly global journey of collaboration. For any school considering the start of a similar journey, we say: do it. The benefits to Monash University and our faculty have been many, and our work is impacting on the wider world in a way it never could have if we had treated MyDispense as restricted and closely guarded revenue driving project.

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No other disclosures. MyDispense is a wholly free resource with no commercial attachments.

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